

VIII. CLAIMS APPENDIX

1. An intravascular catheter, comprising:

an elongate shaft having a proximal end, a distal end and a lumen extending therethrough, the shaft including an inner layer, an outer layer, and a reinforcement layer disposed therebetween, the reinforcement layer comprising a first wire wound in a first direction and a second highly radiopaque metal wire comprising tungsten wound in a second direction different from the first direction, the first wire interwoven with the second wire, the first wire having a first diameter and the second wire having a second diameter less than the first diameter.

2. An intravascular catheter as in claim 1, wherein the first wire comprises a stainless steel metal wire to provide strength to the shaft.

3. (Cancelled)

4. An intravascular catheter as in claim 1, wherein the reinforcement layer further comprises a third wire running parallel and adjacent to the first wire.

5. An intravascular catheter as in claim 4, wherein the third wire has a diameter equal to the diameter of the first wire.

6. An intravascular catheter as in claim 5, wherein the reinforcement layer further comprises a fourth wire running parallel and adjacent to the second wire.

7. An intravascular catheter as in claim 6, wherein the fourth wire has a diameter equal to the diameter of the second wire.

8. An intravascular catheter, comprising:

an elongate shaft having a proximal end, a distal end and a lumen extending therethrough, the shaft including an inner layer, an outer layer, and a reinforcement layer disposed therebetween, the reinforcement layer comprising a first wire wound in a first direction and a second wire wound in a second direction different from the first direction, the first wire interwoven with the second wire, the first wire comprising stainless steel and the second wire comprising a highly radiopaque metal comprising tungsten.

9. An intravascular catheter as in claim 8, wherein the first wire has a first diameter and the second wire has a second diameter less than the first diameter.

10. An intravascular catheter as in claim 8, wherein the reinforcement layer further comprises a third wire running parallel and adjacent to the first wire.

11. An intravascular catheter as in claim 10, wherein the third wire has a diameter equal to the diameter of the first wire.

12. An intravascular catheter as in claim 10, wherein the reinforcement layer further comprises a fourth wire running parallel and adjacent to the second wire.

13. An intravascular catheter as in claim 12, wherein the fourth wire has a diameter equal to the diameter of the second wire.

14. An intravascular catheter, comprising:

an elongate shaft having a proximal end, a distal end and a lumen extending therethrough, the shaft including an inner layer, an outer layer, and a reinforcement layer disposed therebetween, the reinforcement layer comprising a first pair of wires wound in a first direction and a second pair of wires wound in a second direction different from the first direction, the first pair of wires interwoven with the second pair of wires, the first pair of wires comprising stainless steel wires having a first diameter, and the second pair of wires comprising highly radiopaque metal wires comprising tungsten having a second diameter less than the first diameter.

15. An intravascular catheter as in claim 14, wherein the elongate shaft is sized to navigate vascular pathways.

16. An intravascular catheter as in claim 15, wherein the outer layer includes multiple sections of distally decreasing stiffness.

17. An intravascular catheter as in claim 16, wherein the shaft includes a distal tip having a proximal portion and a distal portion, the distal portion of the tip comprising a flexible polymer without the inner layer or the reinforcement layer.

18. (Original) An intravascular catheter as in claim 17, wherein the flexible polymer of the distal portion of the distal tip is readily bondable to the outer layer.

19-21. (Cancelled)

22. An intravascular catheter, comprising:

an elongate shaft including an inner layer, an outer layer, and a reinforcement layer disposed therebetween, the reinforcement layer having a first wire including stainless steel wound in a first direction and a second wire including tungsten wound in a second direction, whereby the first and second wires are interwoven together, the first wire having a first diameter and the second wire having a second diameter smaller than the first diameter.

23. An intravascular catheter as in claim 22, wherein the elongate shaft has a proximal end, a distal end, and a lumen extending therethrough and defining a wall having an thickness, wherein the second wire is sized to avoid compromising the thickness of the wall.

24. An intravascular catheter as in claim 22, wherein the first wire provides torsional rigidity, column strength and burst strength to the catheter shaft, and the second wire provides highly radiopaque visualization of the catheter shaft.